

WHAT IS CLAIMED IS:

1. A hybrid transmission comprising:

a housing having a common axis defined thereby, the housing being adapted to be positioned beside an engine when the hybrid transmission is mounted on a motor vehicle;  
5 a differential speed change unit installed in the housing at a position near the engine and arranged coaxial with the common axis;

a two-rotor type motor/generator unit installed in the housing at a position away from the engine and arranged coaxial with the common axis, the motor/generator unit having inner and outer rotors and a wiring;  
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an inner rotor shaft connected with the inner rotor to rotate therewith, the inner rotor shaft being coaxial with the common axis and extending to the differential speed change unit to be operatively connected to the same; and  
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an outer rotor shaft connected with the outer rotor to rotate therewith, the outer rotor shaft being coaxial with the common axis and extending to the differential speed change unit to be operatively connected to the same,  
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wherein the housing has a split section at which the housing is dividable into two housing parts, the split section being positioned between the differential speed change unit and the motor/generator unit.

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2. A hybrid transmission as claimed in Claim 1, in which the outer rotor shaft is concentrically received in the inner rotor shaft which is hollow, in which the outer rotor is connected to the outer rotor shaft through a connecting member that is positioned at one axial end of the motor/generator unit that is opposite to the other axial end that faces the differential speed change unit, and in which the wiring of the motor/generator unit is exposed to a space between the motor/generator unit and the differential  
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speed change unit and led and exposed to the outside of the housing through an opening formed in the housing near the split section.

- 5     3.     A hybrid transmission as claimed in Claim 2, in which the connecting member is a circular drive plate, the circular drive plate having a peripheral portion which is secured to the outer rotor and a center opening which is connected to the outer rotor shaft by means of a serration connection.

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4.     A hybrid transmission as claimed in Claim 2, in which the opening of the housing through which the wiring is exposed to the outside is provided in a diametrically reduced portion of the housing.

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5.     A hybrid transmission as claimed in Claim 2, in which the wiring comprises:

- an annular inner feeding unit concentrically and stably mounted in the motor/generator unit, the annular inner feeding unit having mutually insulated bus bars which are connected to coils of electromagnets of a stator of the motor/generator unit;
- inner connectors fixed to the housing and connected to the bus bars of the annular inner feeding unit respectively;
- an outer feeding cable having mutually insulated bus bars connected to the inner connectors respectively; and
- an outer connector unit connected to the opening of the housing, the outer connector unit having a plurality of terminal ends to which the mutually insulated bus bars of the outer feeding cable are connected respectively.

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6.     A hybrid transmission as claimed in Claim 5, further comprising cooling water passages which are formed in a wall

portion of the housing to let a cooling water flow therethrough for cooling the stator of the motor/generator unit.

5 7. A hybrid transmission as claimed in Claim 6, in which the wall portion of the housing is provided with a bearing holder which has a center opening through which the inner and outer rotor shafts pass, and in which the stator of the motor/generator unit is fixed.

10 8. A hybrid transmission as claimed in Claim 1, in which the bearing holder has a cooling water passage that is merged with the cooling water passages of the wall portion of the housing.

15 9. A hybrid transmission comprising:  
a housing having a common axis defined thereby, the housing being adapted to be positioned beside an engine when the hybrid transmission is mounted on a motor vehicle;  
a differential speed change unit installed in the housing at a  
20 position near the engine and arranged coaxial with the common axis;  
a two-rotor type motor/generator unit installed in the housing at a position away from the engine and arranged coaxial with the common axis, the motor/generator unit having inner and  
25 outer rotors and a wiring;  
an inner rotor shaft connected with the inner rotor to rotate therewith, the inner rotor shaft being hollow and coaxial with the common axis and extending to the differential speed change unit to be operatively connected to the same; and  
30 an outer rotor shaft rotatably received in the hollow inner rotor shaft and extending to the differential speed change unit to be operatively connected to the same, the outer rotor shaft being connected to the outer rotor through a connecting member that is

positioned at one axial end of the motor/generator unit that is opposite to the other axial end that faces the differential speed change unit,

wherein the housing has a split section at which the housing is dividable into two housing parts, the split section being positioned between the differential speed change unit and the motor/generator unit, and

wherein the wiring of the motor/generator unit is exposed to a space between the motor/generator unit and the differential speed change unit and led and exposed to the outside of the housing through an opening formed in the housing near the split section.

10. A hybrid transmission comprising:

a housing having a common axis defined thereby and having a diametrically reduced portion, the housing being adapted to be positioned beside an engine when the hybrid transmission is mounted on a motor vehicle;

a differential speed change unit installed in the housing at a position near the engine and arranged coaxial with the common axis;

a two-rotor type motor/generator unit installed in the housing at a position away from the engine and arranged coaxial with the common axis, the motor/generator unit having inner and outer rotors and a wiring;

an inner rotor shaft connected with the inner rotor to rotate therewith, the inner rotor shaft being hollow and coaxial with the common axis and extending to the differential speed change unit to be operatively connected to the same; and

an outer rotor shaft rotatably received in the hollow inner rotor shaft and extending to the differential speed change unit to be operatively connected to the same, the outer rotor shaft being connected to the outer rotor through a connecting member that is

positioned at one axial end of the motor/generator unit that is opposite to the other axial end that faces the differential speed change unit,

5 wherein the housing has a split section at which the housing is dividable into two housing parts, the split section being positioned between the differential speed change unit and the motor/generator unit and near the diametrically reduced portion, and

10 wherein the wiring of the motor/generator unit is exposed to a space between the motor/generator unit and the differential speed change unit and led and exposed to the outside of the housing through an opening formed in the diametrically reduced portion of the housing.